

Proposed False River Outfall Canal Gate Operation Criteria

1. Response of False River to a Precipitation Event

Based on a selected group of storms for which cumulative precipitation and rise in stage is available it can be determined that the relationship between the two parameters is as follows (Figure 1):

$$\text{Rise in stage (in)} = 0.404 \times \text{Precipitation (in)}$$

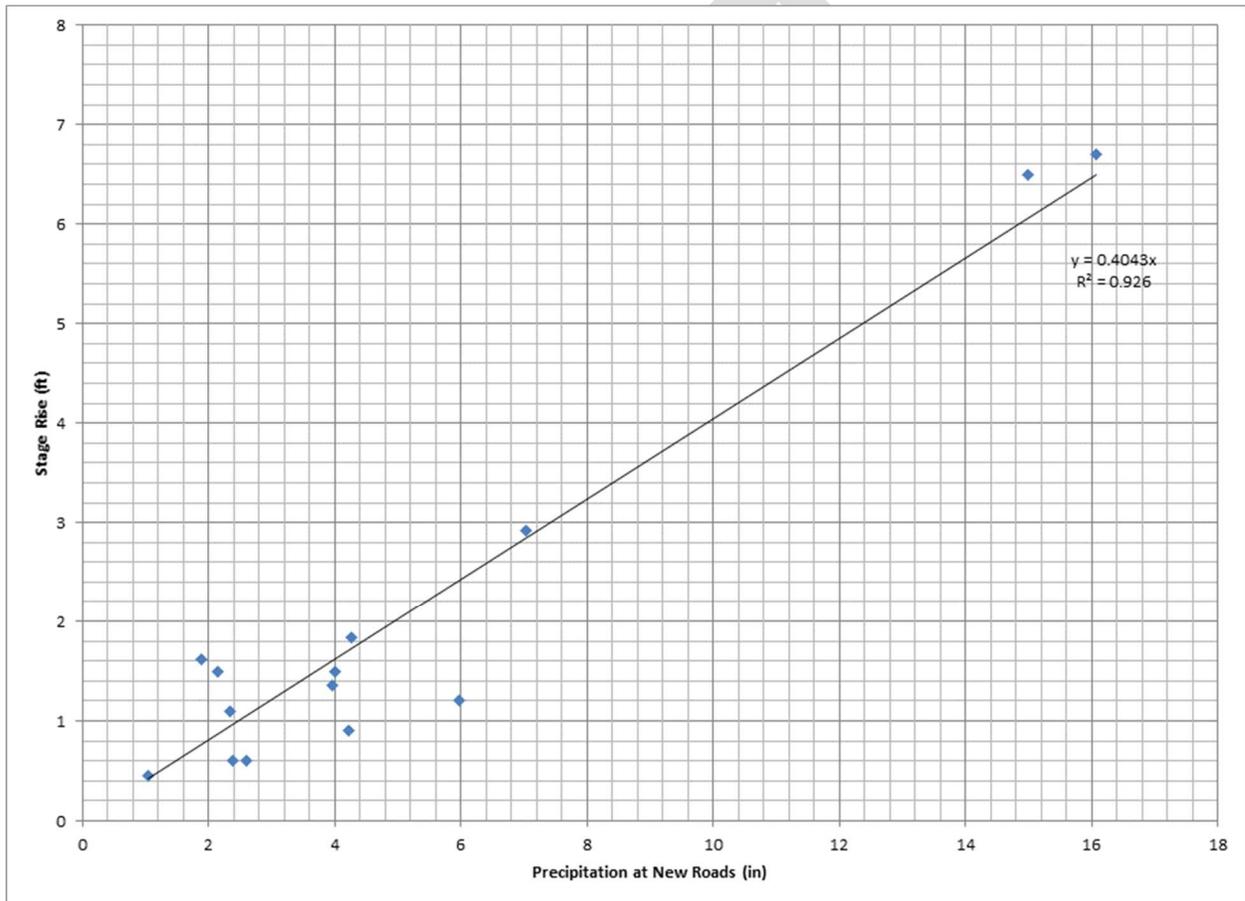


Figure 1. Plot of cumulative precipitation at New Roads versus Rise in stage of False River

The storm used occurred between February 2014 and January 2018. These storms had a distinctive start and end of both the precipitation event and the rise and fall of False River's stage. Antecedent and external conditions were not taken into account.

The 14 storms (2014-2018) used in Figure 1 can also be used to evaluate the time need for the lake to return to its normal pool stage using the current procedures.

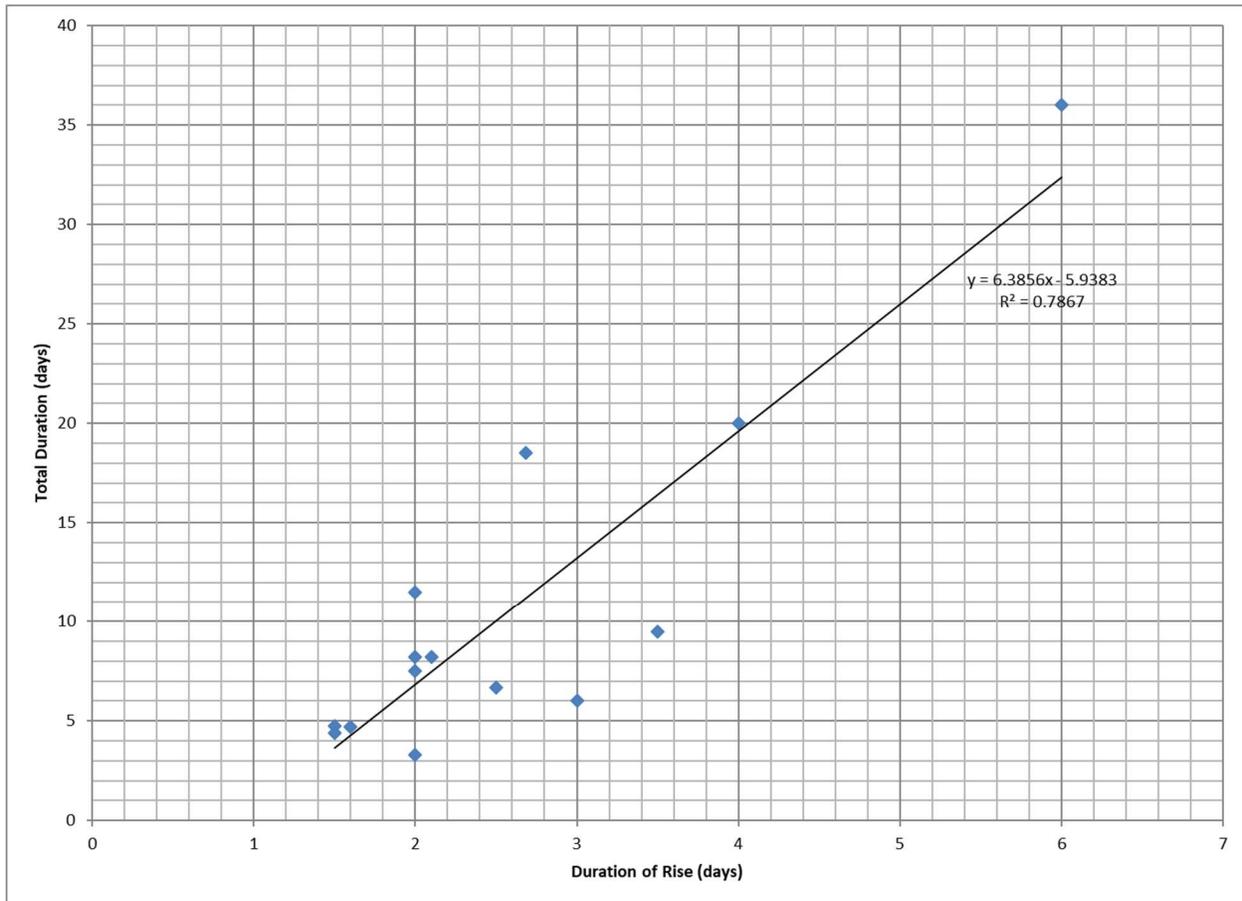


Figure 2: Plot of the Duration of the Rise in Stage and the Cumulative Duration of the Storm

2. False River Outfall Capacity

False River has two outfalls, the False River Outfall Canal (aka FROC and Lighthouse Canal) to the south and Bayou Sere to the Southeast. The Lighthouse Canal structure is equipped with three gates with a combined capacity of 886 cfs at a lake stage of 20 ft (NGVD29). The second outfall, Bayou Sere is a set of two open 5x8' box culverts that begin draining the lake after it reaches a lake stage over 16.5 ft (NGVD29). At a lake stage of 20 ft (NGVD29) the Bayou Sere culverts have a maximum capacity of 590 cfs (Table1).

Table 1: False River Outfalls Discharge (cfs)

Water Elev. (NGVD29)	Water Elev. (NAVD88)	FROC			Bayou Sere 2 Culverts	Maximum Outfall
		1 Gate	2 Gates	3 Gates		
16	14.8	26.4	52.8	79.2	52.8	132
17	15.8	74.1	148.2	224.1	148.2	372
18	16.8	137.2	274.4	411.6	274.4	686
19	17.8	211.2	422.4	633.6	422.4	1056
20	18.8	295.2	590.4	885.6	590.4	1476